We claim:

1. A mixture Ia, comprising a mix IIa composed of

a) from 1 to 95% by weight of a solid III, preferably a basic solid III, with a primary particle size of from 5 nm to 20 μm and

b) from 5 to 99% by weight of a polymeric composition IV, obtainable by polymerizing

b1) from 5 to 100% by weight, based on the composition IV, of a condensation product V of

α) at least one compound VI which is capable of reacting with a carboxylic acid or with a sulfonic acid or with a derivative or a mixture of two or more of these, and

β) at least 1 mol per mole of the compound VI of a carboxylic acid or sulfonic acid VII which has at least one functional group capable of free-radical polymerization, or of a derivative thereof or of a mixture of two or more thereof

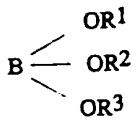
and

b2) from 0 to 95% by weight, based on the composition IV, of another compound VIII with an average molecular weight

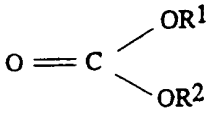
(number average) of at least 5000 having polyether segments in its main or side chain

and

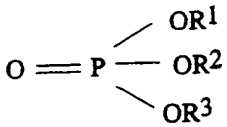
at least one ester of the formula (E1) to (E5)



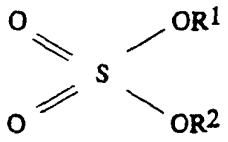
(E1)



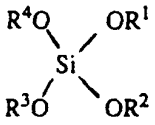
(E2)



(E3)



(E4)



(E5)

where each of R^1, R^2, R^3 and R^4 is identical with or different from the others and, independently of the others, is linear or branched-chain C_1-C_4-alkyl, $(-CH_2-CH_2-O)_n-CH_3$, where n is from 1 to 3, C_3-C_6-cycloalkyl or an aromatic hydrocarbon group, which may in turn be substituted, with the proviso that at least one of the groups R^1, R^2, R^3 or R^4 is $(-CH_2-CH_2-O)_n-CH_3$, where n is from 1 to 3.

2. A mixture Ib, comprising a mix IIb composed of

a) from 1 to 95% by weight of a solid III, preferably a basic solid, with a primary particle size of from 5 nm to 20 μm and

b) from 5 to 99% by weight of a polymer IX, obtainable by polymerizing

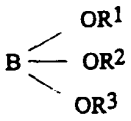
b1) from 5 to 75% by weight, based on the polymer IX, of a compound X capable of free-radical polymerization and differing from the carboxylic acid or the sulfonic acid VII or from a derivative thereof, or of a mixture of two or more thereof

and

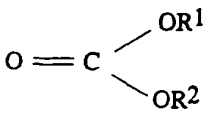
b2) from 25 to 95% by weight, based on the polymer IX, of another compound VIII with an average molecular weight (number average) of at least 5000, having polyether segments in its main or side chain,

and

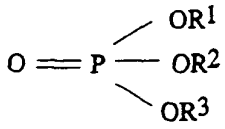
at least one ester of the formula (E1) to (E5)



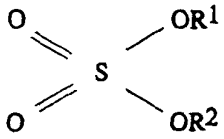
(E1)



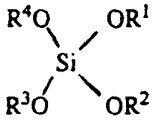
(E2)



(E3)



(E4)

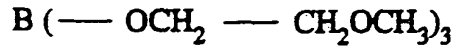


(E5)

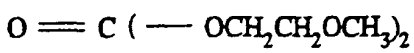
where each of R^1, R^2, R^3 and R^4 is identical with or different from the others and, independently of the others, is linear or branched-chain C_1-C_4-alkyl, $(-CH_2-CH_2-O)_n-CH_3$, where n is from 1 to 3, C_3-C_6-cycloalkyl or an aromatic hydrocarbon group, which may in turn be substituted, with the proviso that at least one of the groups R^1, R^2, R^3 or R^4 is $(-CH_2-CH_2-O)_n-CH_3$, where n is from 1 to 3.

3. A mixture as claimed in claim 1 or 2, where in the at least one ester of the formula (E1) to (E5) R^1, R^2 and, if present, R^3 and/or R^4 are identical and are $-CH_2-CH_2-O-CH_3$ or $(-CH_2-CH_2-O)_2-CH_3$.

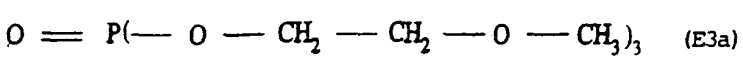
4. A mixture as claimed in any of claims 1 to 3, where the at least one ester is selected from the class consisting of compounds (E1a) to (E5a):



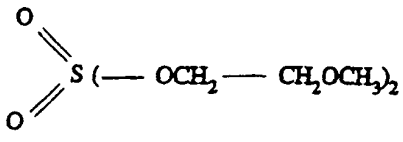
(E1a)



(E2a)

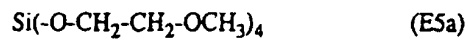


(E3a)



(E4a)

and



(E5a)

5. A mixture as claimed in any of claims 1, 3 or 4, where the mix IIa is composed of

a) from 1 to 95% by weight of a solid III, preferably a basic solid III, with a primary particle size of from 5 nm to 20 μm and

b) from 5 to 99% by weight of a polymeric composition IV, obtainable by polymerizing

b1) from 5 to 100% by weight, based on the composition IV, of a condensation product V of

α) a polyhydric alcohol VI containing carbon and oxygen in its main chain

and

β) at least 1 mol per mole of the polyhydric alcohol VI of an α,β-unsaturated carboxylic acid VII

and

b2) from 0 to 95% by weight, based on the composition IV, of another compound VIII with an average molecular weight (number average) of at least 5000, having polyether segments in its main or side chain.

6. A mixture as claimed in any of claims 1 to 5, further containing at least one conducting salt selected from the class consisting of $LiPF_6$, $LiBF_4$, $LiClO_4$, $LiAsF_6$, $LiCF_3SO_3$, $LiC(CF_3SO_2)_3$, $LiN(CF_3SO_2)_2$, $LiN(SO_2F)_2$, $LiN(CF_3CF_2SO_2)_2$, $LiAlCl_4$, $LiSiF_6$ and $LiSbF_6$.

7. A mixture as claimed in claim 6, containing at least one compound (E1a) to (E5a) as defined in claim 3 and $LiBF_4$.

8. A composite encompassing at least one first layer which comprises an electron-conducting, electrochemically active compound, and at least one second layer which comprises a mixture as claimed in any one of claims 1 to 7 and is free from electron-conducting, electrochemically active compounds.

9. Use of a mixture according to any of claims 1 to 7 or a composite of claim 8 for the preparation of a solid electrolyte, a separator, an electrode, in a sensor, an electrochromic window, a display, a capacitor or an ion-conductive film.

10. A solid electrolyte, a separator, an electrode, a sensor, an electrochromic window, a display, a capacitor or an ion-conducting film, comprising in each case a mixture as claimed in any one of claims 1 to 7, or a composite according to claim 8.

11. An electrochemical cell encompassing a solid electrolyte or encompassing a separator or an electrode as claimed in claim 10, or encompassing a combination of two or more of these.

12. Use of the electrochemical cell as claimed in claim 11 as an Automobile battery, appliance battery or flat-type battery.